

Abstract of the Invention

Method and apparatus for determining the present location of a missing vehicle, such as an automobile or marine vessel, using a Global Positioning System that receives GPS signals from two or more GPS satellites. A GPS antenna, GPS signal receiver/processor, a paging responder, a cellular telephone and associated antenna, and a controller/modem are installed in a vehicle and electrically connected together. When the vehicle is determined to be missing, because the vehicle has been misplaced, lost or stolen, the vehicle owner or operator contacts a vehicle location service center, which broadcasts a paging request that is received by the paging responder on the vehicle. The paging responder causes the controller/modem to interrogate the GPS receiver/processor to determine the present location of the vehicle. The receiver/processor determines the present vehicle location and notifies the controller/modem of such location. The controller/modem then causes the cellular telephone to notify the vehicle location service center of the present location of the missing vehicle so that the vehicle can be recovered. The GPS signal receiver/processor and GPS antenna can be replaced by a receiver/processor and associated antenna that works with a LORAN system, or with a group of gyroscopes or local magnetic field sensors mounted on the vehicle. Optionally, the signal receiver/processor is kept in a "sleeper" mode to conserve power, until the controller/modem receives a paging request for its present location. Optionally, the receiver/processor is periodically activated to determine, and thus update, its present location. Optionally, the presence of the GPS antenna and/or the cellular telephone antenna on the vehicle is concealed. In another embodiment, a sensor is positioned on the vehicle, and the cellular telephone is caused to transmit to the vehicle location center a message containing information on the present location of the vehicle when the sensor senses occurrence of a selected trigger event, such as unauthorized movement of, or breaking into, the vehicle.